

Remarks

Applicants are amending claims 1 and 25 to add "semiconductive" such that "deposited composition" is now "semiconductive deposited composition." Support is found for example on page 17, lines 9-10, which recite: "Before heating, the films showed a conductivity range of 10^{-7} to 10^{-6} S/cm." The recited conductivity range falls within the attached definition of "semiconductor" (Hawley's Condensed Chemical Dictionary, page 1033, Eleventh Edition 1987) which recites an illustrative resistivity range of 10^{-2} to 10^9 ohms/cm. Please note that for the conductivity range of 10^{-7} to 10^{-6} S/cm, the corresponding resistivity range is 10^6 to 10^7 ohms/cm (resistivity is the reciprocal of conductivity). It is understood that amending the claims to recite "semiconductive deposited composition" does NOT limit the metal nanoparticles to those that are semiconductive. As discussed in the specification, the metal nanoparticles can be any suitable material capable of forming an electrically conductive layer of an electronic device (paragraph 0024). Also, as recited in the specification, "[p]rior to heating, the metal nanoparticles may or may not exhibit high electrical conductivity" (paragraph 0025). Reconsideration of the application as amended is respectfully requested.

The Examiner issued a restriction requirement as set forth in the Office Action. Applicants elect claims 1-25. Applicants are canceling without prejudice the nonelected claims 26-29.

The Examiner rejected claims 12, 16, 19, 20 under 35 USC 112, second paragraph, for the reasons set forth in the Office Action. Applicants respectfully traverse the rejection of these claims. Regarding claim 12, applicants direct the Examiner's attention to paragraph 0036 which indicates that "solution coating" is one type of "solution depositing." "Solution printing" is another type with both "solution printing" and "solution coating" encompassed by the phrase "solution depositing."

Regarding claim 16, applicants direct the Examiner's attention to paragraph 0027 which describes exemplary compounds of "amine," "diamine," "thiol," and "dithiol." In comparing the exemplary compounds for "amine" versus "diamine," it is clear that "amine" refers to compounds having one amine group

and that “diamine” refers to compounds having two amine groups. Moreover, in comparing the exemplary compounds for “thiol” versus “dithiol,” it is clear that “thiol” refers to compounds having one thiol group and that “dithiol” refers to compounds having two thiol groups.

Applicants believe claims 19 and 20 meet the requirements of section 112, but to expedite prosecution, applicants are amending claims 19 and 20 to provide “clarification.”

The Examiner rejected certain claims under 35 USC 102(b) as being anticipated by Schulz et al., US Patent 6,126,740. This rejection is respectfully traversed. The present process is directed to forming an electrically conductive layer of an electronic device. In contrast, Schulz is directed to forming a semiconductor film (from a semiconductor precursor film) for use in the electronic device (see for example, column 4, lines 25-27; column 11, lines 61-63). It is generally understood that a semiconductor layer of an electronic device is different from an electrically conductive layer. For example, as seen in the paragraph bridging columns 11-12 of Schulz which describes the elements of a solar cell, the semiconductor layer is considered different from the electrically conductive layer(s) such as for example a top electrical contact. Thus, Schulz fails to anticipate the present claims.

The Examiner rejected certain claims under 35 USC 102(b) as being anticipated by Griffith et al., US Patent 6,348,295. This rejection is respectfully traversed. In the present process, the deposited composition is semiconductive. In contrast, Griffith indicates that the deposited composition is insulative (see for example column 3, lines 9-13, and claim 1 (b)). This insulative property is important in Griffith since the insulative capping group “physically contains the electrical characteristic and prevents interaction with neighboring particles” (column 3, lines 11-13). It is understood that “semiconductive” is different from “insulative.” Thus, Griffith fails to anticipate the present claims.

The Examiner rejected certain claims under 35 USC 102(a) as being anticipated by D. Huang et al., “Plastic-Compatible Low Resistance Printable Gold Nanoparticle Conductors for Flexible Electronics”, *Journal of The Electrochemical Society*, Vol. 150, No. 7, pp. G412-G417 (Available electronically May 30, 2003). This rejection is respectfully traversed.

Applicants are attaching a signed Declaration under 37 CFR 1.131 which removes the Huang document as a reference.

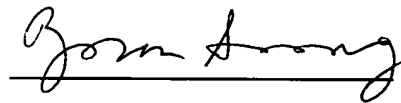
The Examiner rejected claims 1-25 under 35 USC 103(a) as being unpatentable over Griffith in combination with Schulz and Huang. Griffith and Schulz fail to anticipate the present claims with the differences previously discussed. Moreover, the noted differences are not obvious. In addition, this rejection should be withdrawn since the attached Declaration removes the Huang document as a reference.

Applicants disagree with the Examiner's position that the dependent claims are unpatentable, but need not at this time specifically address the Examiner's comments regarding these dependent claims since the independent claims are patentable over the cited references and thus the dependent claims are also patentable over the references.

No additional fee is believed to be required; however, the undersigned Xerox Corporation attorney authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation Deposit Account No. 24-0025.

In view of the foregoing, the present application as amended is in condition for allowance. In the event the Examiner considers personal contact advantageous to the disposition of this case, he is hereby requested to call the undersigned attorney at (585) 423-4292, Rochester, NY.

Respectfully submitted,



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